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Procedia - Social and Behavioral Sciences 231 (2016) 129 – 134

Procedia
Social and Behavioral Sciences

International Conference; Meaning in Translation: Illusion of Precision, MTIP2016, 11-13 May 2016, Riga, Latvia

Translation and ICT competence in the globalized world

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Abstract

In the 21st century, ICT competence plays a major role in knowledge generation, information retrieval, extraction and processing. Under constantly increasing and changing requirements imposed by ongoing technological progress, translators should become even more proficient in the use of computer-assisted translation tools that address such issues as quality assurance and control, terminology management, pre-editing, post-editing, etc.

ICT competence is also closely related to the development of such skills as creativity, logical reasoning, critical thinking and problem solving, decision making, networking, etc. The present paper aims to identify the main advantages of ICT competence in translator training.

Peer-review under responsibility of the organizing committee of MTIP2016

Keywords: ICT competence; computer-assisted translation tools; information processing; information extraction; terminology management tools.

1. Introduction

Contemporary teaching methodology is based on the concept of meaningful learning. According to Ausubel (2000), meaningful learning refers to the way of learning where new knowledge is to a great extent based on the previous knowledge. In the cognitive theory of learning, the following main processes of learning are distinguished: knowledge development; new knowledge interaction with existing knowledge; as well as knowledge and reflexivity. Jonassen et

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Peer-review under responsibility of the organizing committee of MTIP2016
doi:10.1016/j.sbspro.2016.09.081

al. (1999) maintain that meaningful learning comprises constructive, collaborative, intentional, contextual, reflective and other environments.

By the end of the 20th century, numerous universities in the world started to offer courses that explored the ways in which electronic modes of text analysis and writing differed from the previous traditional study programs. To respond to the challenges posed by the digital world, students need the learning environment that helps accumulate and integrate new knowledge with the previous experience, skills and competences. One of the major teaching challenges is to enable students to use their theoretical knowledge in real-life situations. Many researchers (e.g., Gibbs, 1988, Kolb, 2005) emphasize that experience is essential in the learning process: students "learn by doing". However, it should be noted that in order to make experience valuable and relevant, it is essential that students learn "in context" (McLellan, 1994). Information and communication technology allows creating the learning environment suitable for constructive learning as Herrington and Oliver (1995, p. 3) suggest, "the computer can provide an alternative to real-life setting […] without sacrificing the authentic context". The use of ICT (information and communications technology) in higher education promotes student-centered learning (cf. Oliver, 2002).

The present paper deals with the discussion of contemporary requirements regarding language skills and competences to be possessed by translators in the multilingual environment. The main aim of the article is to reveal the advantages of using ICT in translator training by illustrating the interaction between ICT tools and traditional instructional resources, including human instructors. The added value of ICT to the translation classroom is also considered in the paper by emphasizing the use of various computer tools for mastering and developing translation-related skills, as well as demonstrating that the application of ICT is not restricted to such translation processes as pre-translation activities, terminology management, document production and post-editing.

Some researchers argue that successful use of ICT in educational practice depends on didactical competence, ICT literacy and ICT pedagogical competence (Andersen and Brink, 2002). To successfully integrate ICT in the translation classroom, it is necessary not only to explain how the tools work, but also to develop digital competence that may also refer to technology/computer/information literacy, as well as e-literacy and multiliteracy.

To achieve the academic and scientific excellence, the formulation of learning outcomes for the students majoring in translation should involve teaching them to produce target texts, employing innovative methods and sharing best practices efficiently. In this regard, the descriptions of the learning outcomes for the courses in translation should be constantly updated to position them in the multi-dimensional context of life-long learning considering the opportunities offered by ICT tools.

2. Changes of learning environment

As it has been mentioned above, the development of new technologies resulted in the rapid changes of learning environment. New ICT tools, in turn, require new competences that can refer to digital literacy as well as information literacy or eLiteracy. Teaching methods and practices should help students evaluate information, determine its relevance, authenticity and state of the art. The information evaluation process is the basis for lifelong learning. According to Lankshear and Knobel (2003), the education system needs a new understanding of information literacy.

The Joint Information Services Committee (n.d.) defines information literacy as "the ability to identify, assess, retrieve, evaluate, adapt, organize and communicate information within an iterative context of review and reflection". According to Martin (2008, p. 165–166), eLiteracy consists of awareness of ICT and information environment, confidence in using generic ICT and information tools, evaluation of information processing operations, reflection on one's own eLiteracy development, as well as adaptability and willingness to meet eLiteracy challenges.

According to Eshet-Alkalai (2004, p. 93), digital literacy involves more than just an ability to use tools; it encompasses a large variety of skills, which students need to function effectively in digital environments. The scholar (ibid.) proposed a five-skill holistic conceptual model, arguing that the model covers most of the cognitive skills students use in digital environments: (1) photovisual digital thinking; (2) reproduction digital thinking; (3) branching digital thinking; (4) information digital thinking; and (5) socio-emotional digital thinking. Due to the rapid evolution of multimedia, Eshet-Alkalai (2009) also added real-time digital thinking to the model.

As information may be presented in various formats, the term "information" encompasses different literacies, for example, Larraz (2013) (in Gallardo-Echenique et al. 2015, p. 10) has made an attempt to combine several literacies under digital competence, which involves: (1) information literacy for managing digital information; (2) computer literacy for processing data in different formats; c) media literacy for analyzing and creating multimedia resources; and (4) communication literacy for effective participating in digital environments. Students develop ICT competence

performing assignments associated with information access and management, including creative thinking, logical reasoning, problem solving and decision making.

3. Multi-component model of translation competencies

Under the current educational philosophy of life-long learning, Pym (2012, p. 1) proposes the following main skills to be mastered by students: "learning to learn, learning to trust and mistrust data, and learning to revise with enhanced attention to detail". The ability to assess information and determine its trustfulness is important since at present there is a tendency to rely on what is given in the Translation Memory / Machine Translation database rather than search for external sources of information (cf. Calvani et al., 2008, Alves and Campos, 2009).

In the age of big data and dynamic development of ICT, the ability to find the relevant information becomes extremely important. Students should not use just one tool, they should rather experiment with different tools in order to be able to choose an appropriate one very quickly taking into account the particular demands (i.e. the specificity of translation project, time frame, commissioner's requirements, etc.).

According to Shreve (1997, p. 125), translation competence is "an endless process of building and rebuilding knowledge, evolving through exposure to a combination of training and continuous practical experience and leading to changes in the way that translators actually conceive of translation". With the increasing use of computer tools, the scholars have been expanding the multi-component model of competencies to include new skills and proficiencies required in the field of translator training. There are different classifications of translation competences, for example, Neubert (2000) proposes the following hierarchical definition of translation competence that consists of language competence, textual competence, subject competence, cultural competence and transfer competence, which encompasses the strategies and procedures that allow translating the text quickly and efficiently. This competence is superordinate to the previous four competencies because it is "triggered off by the nature of the text" (Neubert, 2000, p. 15). The model of Schäffner (2000, p. 146) additionally includes the research competence, i.e., general strategy competence aimed at the ability to resolve problems specific to the cross-cultural transfer of texts. The author argues that these competencies are interrelated and interact together depending on a translation task.

Many models of translation competence "combine a number of different sub-competencies that seem to include the world, the universe and everything and are intricately interrelated" (Beeby, 2000, p. 185). Nord (1991, p. 235) distinguishes several sub-competences that constitute translation competence: competence of text reception and analysis, research competence, transfer competence, competence of text production, competence of translation quality assessment, and linguistic and cultural competence both on the source and the target side. To be able to fulfil all the contemporary demands, translators are required to possess all the above-mentioned competences plus one, i.e., digital competence, the use of translation technologies that facilitate translation process by ensuring higher terminology accuracy, information extraction and data processing.

4. ICT tools

Information and communication technology refers to a range of hardware and software used to collect, process, store, retrieve and transmit data in various forms. ICT encompasses information search systems (e.g., encyclopedias, databases, hypermedia systems) and communication tools (web communication services, discussion forums, social networks). The application of ICT tools requires new literacies, i.e., a combination of technical-procedural skills, ability to understand and use information in multiple formats presented via computers, as well as emotional and social skills.

The high-tech age has provided translators with various ICT tools, including general software such as, for example, MS Office suite, web browsers, online termbases, and specialized software, such as computer-assisted translation (CAT) tools and machine translation (MT) applications. The main advantages of ICT tools are speed, flexibility, timeliness, and user-friendly interface. The application of different ICT tools has become inevitable in the translation classroom.

4.1. Machine Translation

As it is not possible to stop the progress, new computer-mediated tools should be adopted and the learning environment should be adjusted to the current situation. There is an evident tendency to consider machine translation tools to be very useful in the pedagogical environment. According to Bowker (2002, p. 4), "focus has shifted away from the notion that machines should be designed to replace human translators and is now firmly concentrated on the ways in which machines can support human translators". Nowadays almost everyone uses MT tools because they provide quick gisting of information in languages unknown to the user as well as fast translation of short documents (e.g., web pages, leaflets, advertisements, etc.) meant for internal use. Therefore, it is impractical to prohibit the use of these tools in the classroom.

Several teaching methods can be used to enable students to identify and recognize possibilities and limitations of these tools. For example, one type of training activity may be focused on editing the text translated by online MT tools (e.g. Google Translate, Bing Translator). The learning outcomes to be reached are: (1) the ability of students to notice similarities and differences between the source and target languages; (2) the ability to recognize and identify common grammatical, stylistic, punctuation, etc. mistakes; (3) the ability to spot problematic areas of machine translation tools due to various reasons. Other type of activity may involve the evaluation of MT quality depending on various types and genres of texts. Different online MT tools can also be compared to reveal their differences and similarities, thus, enabling students to be aware of the nature of these tools.

Machine translation has been defined as one of the research priorities by the Directorate-General for Translation (DGT). In 2010, the DGT officially launched its MT@EC project, using the open-source statistical machine translation tool "Moses". The tool automatically translated from and into all 24 EU official languages; it was probated on EU official documents and preserved the original document format and layout. In 2014, the DGT organized the conference "MT@Work: Public Service Redesigned?" which was an interinstitutional event aimed at discussing how machine translation could bring added value to translators' work.

From 1946, when the idea of using computers for translation of natural languages had been proposed, various approaches to machine translation were suggested: rule-based, transfer-based, interlingual, dictionary-based, example-based and statistical. However, at present the preference is given to hybrid machine translation tools that use advantages of rule-based approaches and statistics.

The problems experienced by MT tools may be classified as qualification problem, relevance problem, and integration problem (Shanahan, 1997, Cassimatis, 2010). The qualification problem may be considered the main difficulty in formalizing common sense knowledge in general and in formalizing knowledge about an action in particular (cf. Elkan, 1995). In other words, this type of problem is related to the fact that it is impossible to state all relevant circumstances in all scenarios. Relevance problem, in turn, is the problem of determining what information in the knowledge base might be useful for solving a particular problem (cf. Minsky, 1981). Integration problem focuses on the idea of integrating new knowledge with the previously existing knowledge.

Various studies prove that quality of translations provided by MT tools depends on language combinations and text types. Morphological richness of languages (ranging from analytical, moderately inflected, highly inflected) and the differences in syntax also greatly influence the MT quality. At present, there are also MT tools that allow domain-specific customization, thus limiting the range of polysemous terms and improving translation output. Machine translation tools can be used for gisting purposes, typographical support, at the same time, they may serve as a source of lexical inspiration assisting a translator to select the most appropriate lexical units for the translated text.

4.2. CAT tools

Computer-assisted translation tools have become the leading technology in the translation industry. They comprise translation memories, terminology extraction and recognition tools, alignment, localization tools, spell checkers, grammar checkers, auto-suggest dictionaries, termbases, etc. CAT tools typically do not translate the text; they assist the translator in various tasks, such as verification of terminology consistency, source and target text alignment, reuse of previously translated documents, grammar and spell checking, pre-translation activities, terminology management, proper document formatting, document production, post-editing, etc.

As translation technology has been improved over the past decade, the number of CAT tools available to translators

has significantly increased. The most popular tools are SDL Trados Studio, memoQ, Memsource, Transit, MateCat, Wordfast, OmegaT, Déjà Vu. A novice translator may be confused by a range of tools available on the market. However, it should be noted that they all are used to support the basic functions of computer-assisted translation; therefore, to use any CAT tool in practice it is necessary to be aware of their standard functionalities.

The range of functions offered by CAT tools has also increased, for example, some tools (such as MateCat) perform word count, statistics and analysis tasks. The word count function counts the words in the source text. For example, statistics and analysis tasks compare the source text to the existing translation memories in order to provide information such as the percentage of repetition in the source text, including full matches, fuzzy matches or no matches at all. On the basis of the statistical data provided, translators can estimate the translation time as well as calculate the fee for translation services. As a recent trend, developers have also started to integrate MT engine into CAT tools as the post-editing of MT suggestions can improve the productivity of translators.

To meet the requirements of employers who prefer translators proficient in using the computer-assisted translation software, instructors should enable students to acquire theoretical and practical knowledge related to basic functionalities of CAT tools. The main issue is how to use the tools efficiently to create a meaningful learning environment and ensure the high-quality training of students that would subsequently result in the qualitative translations produced by students.

As teaching in real-life situations is the most effective teaching approach, various teaching methods may be used in the translation classroom: presentation, demonstration, drill and practice, role-playing, collaboration, modeling and case studies. For example, students may be given such an activity as managing the entire life cycle of a translation project. As it involves various activities (e.g., communication with the commissioner, text processing and analysis, terminology management, translation, quality assurance), each step of a translation project should be properly managed. According to Esselink (2000, p. 429), a translation project is only successful when it is completed "on schedule, within the budget, and according to previously agreed quality standards". The entire translation project should comply with the demands of a wider production environment that considers multilingual information management in the form of information objects, i.e. a collection of information identified as a unit and defined by its communicative purpose, specific user, business entity, the content and publishing restrictions (Hofmann, & Mehnert, 2000, p. 61).

Thus, through learning and testing CAT tools, students acquire not only technological and information mining competences but also develop other competences specified by EMT, such as translation service provision competence (ability to plan and manage one's time; ability to work in a team, including a virtual one; ability to self-evaluate; ability to establish and monitor quality standards; etc.), intercultural competence (ability to draft, restructure, and post-edit), and thematic competence (ability to search for relevant information etc.).

The development of information and communication technology greatly affects the field of translation. The translator's working environment is evolving rapidly towards global and virtual teams where technology is in the center of the translation process. In the translation classroom, the application of ICT tools creates an inclusive and supportive work environment and, thus, ensures better acquisition of competences necessary to perform specific translation tasks.

5. Conclusion

Translation as a resource-based learning activity requires a new strategy with regard to relevant information extraction, retrieval and processing. To successfully integrate ICT in the translation classroom, it is necessary to develop digital competence of the students that may also refer to technology / computer / information literacy, as well as e-literacy and multiliteracy.

The development of MT and CAT tools affects not only the environment of professional translators, but also the areas of teaching and learning. The acquisition of ICT skills relevant for translators can also be useful for the development of pedagogy due to requirements for the creation of appropriate learning environment, the use of CAT and MT tools, textual analysis of source and target texts.

To be able to fulfill all the contemporary demands, translators are required to be proficient not only in working languages and subject field, not only in traditional activities used in the translation classroom, but also in the use of

translation technologies that facilitate the translation process by ensuring higher terminology accuracy and text organization management.

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